

Amendments to the Claims

This listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims

1-17. (Canceled)

18. (Original) A method for determining sulfonator status in a subject, said method comprising detecting the presence or absence of a sulfotransferase allozyme in said subject, and determining said sulfonator status based, at least in part, on presence or absence of said sulfotransferase allozyme.

19-31. (Canceled)

32. (New) A method for determining the sulfonator status of an individual, said method comprising determining whether said subject comprises a variant *SULT1A1*, *SULT1A2*, or *SULT1A3* nucleic acid.

33. (New) The method of claim 32, wherein said variant *SULT1A1* nucleic acid comprises an adenine at nucleotide 638.

34. (New) The method of claim 32, wherein said variant *SULT1A1*, *SULT1A2*, or *SULT1A3* nucleic acid comprises the *SULT1A1**2 allele.

35. (New) A method for predicting the therapeutic efficacy of a compound in a subject, wherein said compound is sulfonated, said method comprising:

- a) determining the sulfonator status of said subject; and
- b) correlating said sulfonator status with the ability of said subject to metabolize said compound, wherein said compound is predicted to be therapeutically effective if said sulfonator status is enhanced in said subject, and wherein said compound is predicted not to be therapeutically effective if said sulfonator status is reduced in said subject.

36. (New) The method of claim 35, wherein said determining of said sulfonator status comprises determining whether said subject comprises a variant *SULT1A1*, *SULT1A2*, or *SULT1A3* nucleic acid.

37. (New) The method of claim 36, wherein said variant *SULT1A1*, *SULT1A2*, or *SULT1A3* nucleic acid comprises a non-synonymous single nucleotide polymorphism.

38. (New) The method of claim 35, wherein said determining of said sulfonator status comprises measuring sulfotransferase activity in a sample from said subject.

39. (New) The method of claim 38, wherein said sample is a blood sample.

40. (New) The method of claim 38, wherein said sulfotransferase activity is *SULT1A1*, *SULT1A2*, or *SULT1A3* activity.

41. (New) A method for predicting the therapeutic efficacy of a compound in a subject, wherein metabolism of said compound comprises sulfonation, said method comprising:

- a) estimating the level of sulfotransferase activity in said subject; and
- b) correlating said level of sulfotransferase activity with the ability of said subject to metabolize said compound, wherein said compound is predicted to be therapeutically effective if said level of sulfotransferase activity is increased in said subject, and wherein said compound is predicted not to be therapeutically effective if said level of sulfotransferase activity is reduced in said subject.

42. (New) The method of claim 41, wherein said sulfotransferase is *SULT1A1*, *SULT1A2*, or *SULT1A3*.

43. (New) The method of claim 41, wherein said level of sulfotransferase activity in said subject is estimated by determining whether said subject comprises a variant *SULT1A1*, *SULT1A2*, or *SULT1A3* nucleic acid.

44. (New) The method of claim 43, wherein said variant *SULT1A1*, *SULT1A2*, or *SULT1A3* nucleic acid comprises a non-synonymous single nucleotide polymorphism.

45. (New) A method for estimating a dose of a compound for administration to a subject, wherein metabolism of said compound comprises sulfonation, said method comprising determining the sulfonator status of said subject, wherein said dose is estimated to be higher if said sulfonator status is increased in said subject, and wherein said dose is estimated to be lower if said sulfonator status is decreased in said subject.

46. (New) The method of claim 45, wherein determination of said sulfonator status comprises determining whether said subject comprises a variant *SULT1A1*, *SULT1A2*, or *SULT1A3* nucleic acid.

47. (New) The method of claim 46, wherein said variant *SULT1A1*, *SULT1A2*, or *SULT1A3* nucleic acid comprises a non-synonymous single nucleotide polymorphism.